MA3000 MOBILE DF ANTENNA

- 1.4 - 3.0 GHz frequency coverage
- Accurate and repeatable bearings
- Vehicle and/ or manportable operation
- Extremely high signal handling capability
- Low power consumption
- Ruggedized, compact, lightweight design
- One year warranty on parts and labor

An Accurate, Compact Antenna for Mobile Operations

The MA3000 Mobile DF Antenna is an Ultra High Frequency (UHF) antenna consisting of four vertically polarized log-periodic (LP) elements enclosed within an antenna housing. The MA3000 antenna is designed to receive vertically polarized signals in the 1.4 to 3 GHz frequency range.

The antenna electronics are mounted inside the chassis, and the elements and chassis are enclosed with a vacuum-formed abrasive resistant plastic cover. Removable magnetic mounts are attached to the bottom of the chassis to facilitate cartop installation. Car straps are provided for added stability.

All power and control signals to the antenna are provided through one 8-conductor control cable via the DF processor. The received signal with bearing information encoded, is routed to the receiver through a RF coaxial cable. The antenna may be connected in series with another DF antenna to provide wider frequency coverage. Connections are provided to cascade RF and control signals to a compatible DF antenna such as Cubic's MA1316 and MA1310 or MA1320. The MA3000 is compatible with several Cubic receiver/ processor configurations.

MA3000 MOBILE DF ANTENNA

SPECIFICATIONS

Frequency Range:	1.4 - 3.0 GHz
Azimuthal Coverage:	360° in azimuth
Antenna:	4-element log-periodic dipole array
Bearing Accuracy (typical):	7.5° rms, 1.4 - 2.0 GHz 11° rms, 1.4 - 3.0 GHz Bearing accuracy may be improved with site calibration (Note 1) (Note 3)
Power:	Voltage: 11.5 - 20 VDC (supplied through DF Processor)
Typical DF Sensitivity:	20 µV/m (Note 2)
Polarization:	Vertical
Impedance:	50 ohms
Mechanical:	Height: 8.5” (21.6 cm) Width: 12” (30.5 cm) Depth: 12” (30.5 cm) Weight: 9 lbs (4.1 kg)
Environmental:	Operating: -40°C to +60°C Storage: -40°C to +70°C Humidity: 95% RH per MIL-STD-810D (507.2) Shock: MIL-STD-810C, Procedure VI Vibration: Random per MIL-STD-81-D (514.3)

Note 1: DF bearing accuracy is measured on an ideal site with no bias over specified azimuthal and frequency range with specified polarization at 0° elevation. Bearing accuracy improvement will depend upon the physical characteristics of the particular site chosen. Actual production acceptance testing performed at Cubic test site using standard deviation to eliminate site bias.

Note 2: System sensitivity is specified for an incident field strength in microvolts per meter for direction finding processor output with 6° standard deviation bearing jitter, minimum integration time of 200 msec and an IF bandwidth of 15 kHz.

Note 3: DF bearing accuracy is the rms value of all frequencies at all azimuth points as a single calculation.

$$RMS = \sqrt{\frac{\sum_{i=1}^{n} (AM_i - AT_i)^2}{n}}$$

i = index
n = # of points (frequency • azimuth)
AM = measured azimuth
AT = true azimuth

Ordering Information

Model No.	Part No.	Description
MA3000	0253-1000-3	Mobile DF Antenna, 1.4 - 3.0 GHz, supplied with magnetic mounts (4) and safety straps (4), and interconnect cables. Color: Grey
MA3000	0253-1000-29	Mobile DF Antenna, 1.4 - 3.0 GHz, supplied with magnetic mounts (4) and safety straps (4), and interconnect cables. Color: Olive Drab

Specifications subject to change without notice

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